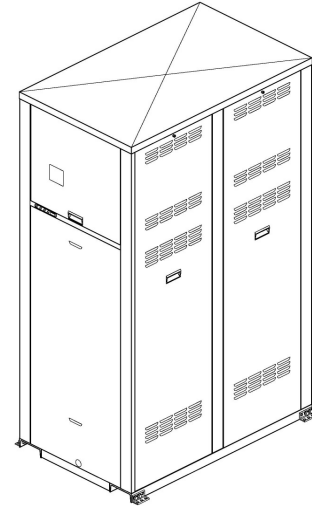



Job: _____
 Engineer: _____
 Contractor: _____
 Prepared By: _____ Date: _____
 Model: _____ Indoor/Outdoor: _____

XTherm™ - Type H

Heating Boilers
 Models 1005A-2005A

- 96% Thermal Efficiency at Full Rate; Up to 99% at Part Load
- 100% Factory Fire Tested
- VERSA IC™ Modulating Controller with LCD Display
- Full Electronic Modulation, Constant Ratio 7:1 Turndown
- Full Safety Diagnostics with History
- Status Display Lights
- Cascade up to 4 Heaters – No External Sequencer Required
- Modbus RTU BMS Port
- Maximum Outlet Water Temperature: 235°F
- Minimum Inlet Water Temperature: 50°F
- Limited Twenty-Five-Year Thermal Shock Warranty
- Limited Ten-Year Primary Heat Exchanger Warranty
- Limited Ten-Year Secondary Heat Exchanger Warranty



 Proudly Made in the USA

Heat Exchanger

- Headers
 - Cast Iron – Standard
 - Bronze – Option A-1
- ASME H Stamped; 160 PSIG MAWP
- National Board Listed
- Fin Tubing
 - Copper – Standard
 - Cupro Nickel – Option A-3
- ASME Powder-Coated Tube Sheet
- Silicone High Temp O-Rings
- ASME Pressure Relief Valve
 - 60 PSIG – Standard
 - _____ PSIG – Optional
- 150 PSI Air Vent, Auto
- T&P Gauge, Shipped Loose
- Stainless Steel Secondary Heat Exchanger
- Stainless Steel Evaporator Plate
- Boiler Pump: 120V, 1Ø, 60Hz;
 - Cast Iron – Standard
 - Bronze – Option

Control

- 120V, 60Hz, 1Ø, Power Supply
- 120/24V 60Hz Transformer
- Ignition Module
 - 3-Try – Standard
 - Single-Try – Option C-6
- Hot Surface Ignition (HSI)
- Remote Flame Sensor
- Fixed High Limit, Manual Reset, 240°F
- On/Off Power Switch
- Flow Switch
- Blocked Vent Pressure Switch
- Freeze Protection
- Alarm Dry Contact
- Pump Outputs – Pilot Duty
 - DHW Indirect
 - System
- Programmable Pump Time Delays

- LCD Display: Status, Fault and Diagnostics
- Modulating Temperature Control; 7:1 turndown
- Water Temperature Sensors (7)
- Cold Water Protection – Built In
- Blocked Condensate Switch
- Modbus RTU BMS Port (Up to 115K Baud Rate, see Cat. No. 5000.73)
- B-85 BMS Gateway, Modbus RTU to Modbus TCP, N2 Metasys, BACnet IP, or BACnet MS/TP
- B-86 BMS Gateway, Modbus RTU to LonWorks

Burner

- Radially Fired Knitted Burner

Gas Train

- Fuel
 - Natural Gas
 - Propane
- Dual-Seat Combination Valve
- Manual Shut Off Firing Valve

Construction

- Indoor/Outdoor Construction
- Enclosed Front Controls
- PolyTuf Powder Coat Finish
- Rear Connections (Water, Gas, Vent, Electrical, Comb. Air, Cond. Drain)
- Combustion Air Filter
- Design Certified ANSI Z21.13/CSA 4.9
- Front Connection Low Voltage Wiring

Venting

- Vent Termination, Cat IV
 - Outdoor or Indoor, Vertical – Option D-11
 - Indoor, Horizontal – Option D-15
- Extractor – Optional, Cat II
 - By others

Not required

Options

- D-32 PVC Vent Adapter (Includes 162°F Manual High Limit) (Factory installed only)
- D-33 Centrotherm™ Polypropylene Vent Adapter (Includes 180°F Manual High Limit) (shipped loose)
- F-10 Low Water Cut-Off, Remote Probe
- I-1 High Limit, Auto Reset, Adj., 100-240°F
- I-2 High Limit, Manual Reset, Adj., 100-240°F
- S-1 Low Gas Pressure Switch, Manual Reset
- S-2 High Gas Pressure Switch, Manual Reset
- Z-12 Condensate Neutralizer Kit

Regulatory Agency Requirements

Multi-Boiler Digital Temp Controllers

- B-36 TempTracker Mod+ Hybrid, 2-4 Boilers, OA Reset
- B-37 TempTracker Mod+ Hybrid, 5-10 Boilers, OA Reset
- B-38 TempTracker Mod+ Hybrid, 11-16 Boilers, OA Reset
- B-39* EMS 4-20 mA Remote Setpoint Interface Module
- B-62* BACnet MS/TP Interface Module (*only used with B-36 to B-38)



Raypak®

A Rheem Company

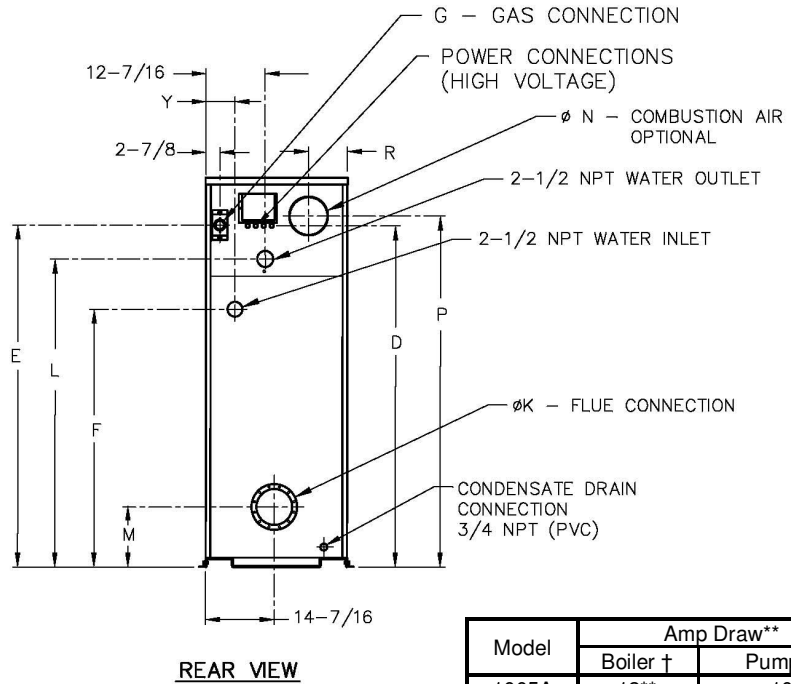
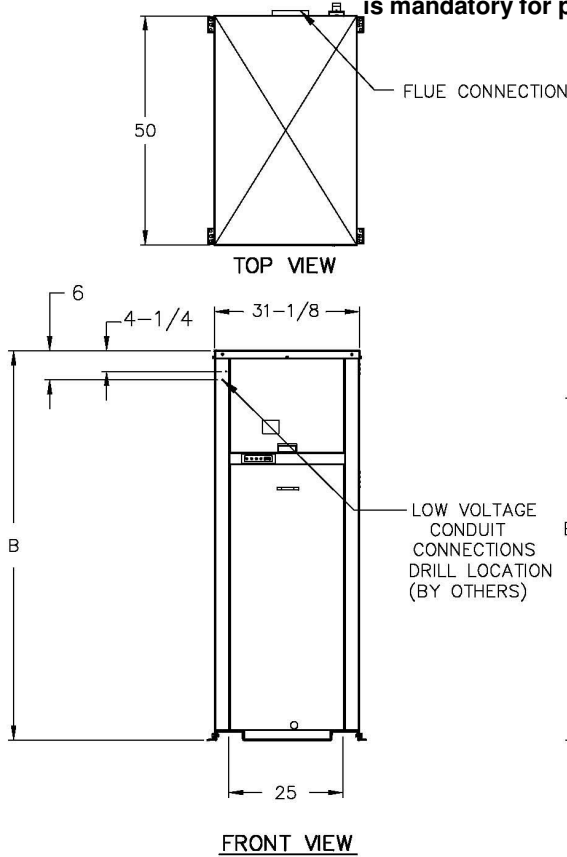
XTherm – Type H Models 1005A-2005A

Model _____

NOTE: Primary/Secondary plumbing is mandatory for proper operation.

CLEARANCES (in.)

	Front	Rear	Right	Left	Top	Floor	Vent
Certified Minimum	24	12	1	1	0	0	1
Minimum Service	24	36	24	1	10	N/A	N/A



Model	Amp Draw**	
	Boiler †	Pump †
1005A	12**	10
1505A	12**	14
2005A	18**	17

† Separate power connections are factory supplied and separate supply breakers must be field supplied.
** Current draw is for boiler only (Supply breaker must have delayed trip).

Model (H7-)	MBTUH		Dimensions (in)											Ship Weight (Lbs.)	
	Input	Output	B Height	D	E	F	G* NPT	K Flue Ø	L	M	N C/A Ø	P	R		Y
<input type="checkbox"/> 1005A	999	959	55-1/8	45	47-1/8	36-1/2	1-1/4	6	40-1/16	11-1/2	6	47-1/8	8-1/16	6-1/16	1065
<input type="checkbox"/> 1505A	1500	1440	67-1/8	57	59-1/16	38-1/2	1-1/4	8	52-1/16	12-5/8	8	59-1/8	8-3/16	6-1/16	1234
<input type="checkbox"/> 2005A	1999	1919	81-1/8	71	71-3/16	38-1/2	2	8	64-1/16	12-5/8	8	73-1/8	8-3/16	6-1/4	1461

Note: Ratings shown are for elevations up to 4,500 feet. For installations at elevations above 4,500 feet, please consult the factory for additional instructions.

* For Propane Gas, all models are 1" NPT

System Return Temp (°F)	<input type="checkbox"/> Model 1005A				<input type="checkbox"/> Model 1505A				<input type="checkbox"/> Model 2005A			
	Supply Temp (°F)	Minimum Pipe Size ²		Supply Temp (°F)	Minimum Pipe Size ²		Supply Temp (°F)	Minimum Pipe Size ²				
		<80' eq	80-200' eq		<80' eq	80-200' eq		<80' eq	80-200' eq			
60	138	2" NPT	2-1/2" NPT	147	2" NPT	2-1/2" NPT	154	2" NPT	2-1/2" NPT			
80	138	2" NPT	2-1/2" NPT	147	2" NPT	2-1/2" NPT	154	2-1/2" NPT	3" NPT			
100	138	2-1/2" NPT	3" NPT	147	2-1/2" NPT	3" NPT	154	2-1/2" NPT	3" NPT			
120	145	2-1/2" NPT	3" NPT	158	2-1/2" NPT	3" NPT	170	2-1/2" NPT	3" NPT			
140	165	2-1/2" NPT	3" NPT	178	2-1/2" NPT	3" NPT	190	2-1/2" NPT	3" NPT			
160	185	2-1/2" NPT	3" NPT	198	2-1/2" NPT	3" NPT	210	2-1/2" NPT	3" NPT			

¹ – Approximate high fire heater outlet temperature based on the standard heater pump and recommended connecting pipe size.

² – Minimum pipe size based on total equivalent feet of supply and return piping between the system loop and heater.

Job: _____
Engineer: _____
Contractor: _____
Prepared By: _____
Date: _____

TempTracker Mod+ Hybrid™ Modulating Controllers

For Controlling Raypak Condensing and/or
Non-Condensing Boilers and Water Heaters

TempTracker Mod+ Hybrid is designed to sequence multiple condensing and/or non-condensing boilers up to 16 total units in a single system, and is capable of controlling Raypak modulating or stage-fired boilers. It is available loose with **Hi Delta**, **Raytherm**, **MVB**, **XTherm** and **XFyre** boilers and water heaters. This control can be used for space heating and hot water supply, including outdoor reset for heating systems. It monitors and displays system temperatures on all applications as well as monitors outdoor temperature when an outdoor sensor is utilized.



Proudly Made in the USA

Features

- 1-4 boilers/stages
- Lead/Lag Rotation
- PID logic
- 5 LED Status Lights
- LCD digital display
- System Pump Relay – Pilot Duty
- Remote Thermostat Connection
- NEMA 1 enclosure
- System water sensor
- Outdoor air sensor
- Reset Ratio 1:4 to 4:1
- 120 VAC, 60 Hz, 12 VA Supply Power
- Relay Ratings
1A Inductive, 6A Resistive at 120 VAC, 60 Hz
15A total for all circuits

Programmable Functions

- Adjustable outdoor reset
- 4-20 mA or 0-10 VDC output
- System water temperature
 - Heating – 50° - 220 °F
 - Temp to Indirect DHW – 140° - 200 °F
- Switch differential (5° to 20 °F)
- Outdoor cutoff (20 to 100 °F)
- Indirect Domestic Hot Water with/without Priority
- System pump-off delay (0 to 360 min.)
- Temperature measurement (°F or °C)
- BACnet compatible (requires B-62)

Model Information

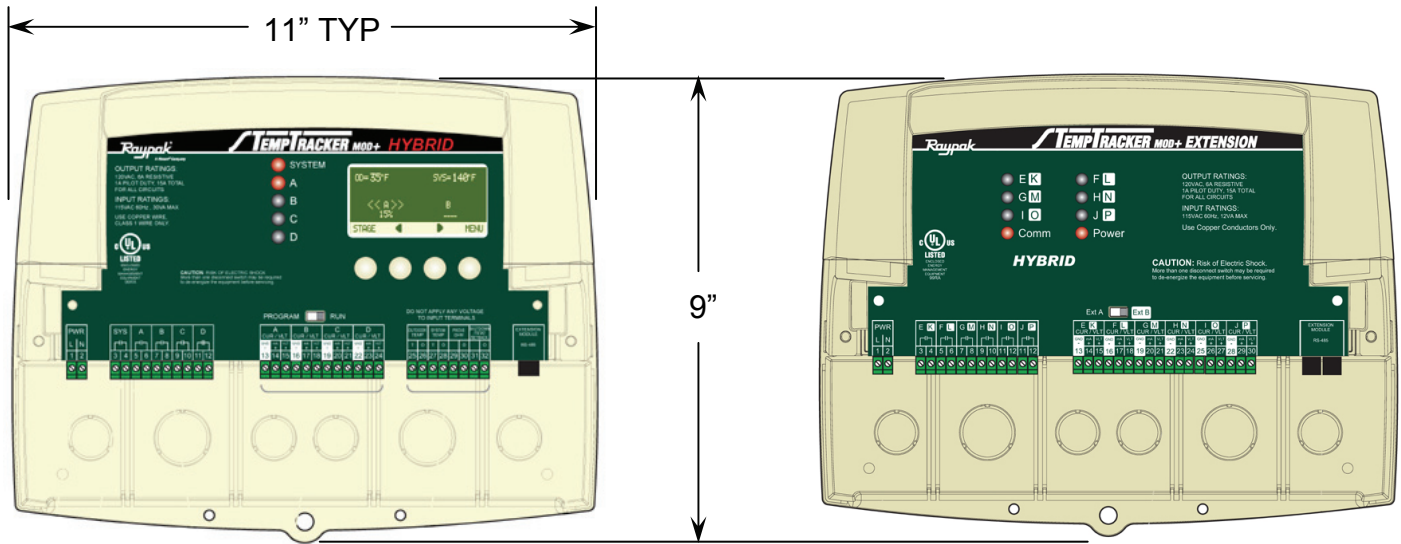
- B-36 Up to 4 Units
- B-37 Up to 10 Units
- B-38 Up to 16 Units

Options

- B-39 4-20mA Remote Set Point
- B-62 BACnet MS/TP



Raypak®
A Rheem® Company



Specifications

Voltage Input:	120 VAC 60 Hz
Power Consumption:	12 VA Max
Operating Temperature:	20°F/-6°C to 130°F/54°C
Operating Humidity:	20% to 80% non-condensing
Dimensions:	11"W x 9" H x 3 3/4" D
Weight:	2.5 pounds

TempTracker MOD+ Hybrid Specifications

Pump Output:	1 N.O. S.P.S.T
Modulating Boiler Modes:	Auto, Manual, Standby, On, Off
Staging Boiler Modes:	Auto, Standby, On, Off
Modulating Output Types:	4-20mA and 0-10V
Sequencing Output Types:	On/Off, 2-Stage, 3-Stage, or 4-Stage
Output Relay Ratings:	1 Amp inductive (1/8 HP), 6 Amp resistive at 120 VAC DHW Call Input. (Dry Contacts Only)
Add-On Extension Panels:	up to two Extension Panels using RS485 (RJ45 or RJ11)
Modulation Modes:	Normal or Parallel
Sequencing Modes:	Lo/Hi/Lo/Hi or Lo/Lo/Hi/Hi
Temperature Display:	Fahrenheit or Celsius
Display:	Graphical Alphanumeric (up to 7 rows x 21 char. each)
LED:	1 System Output relay, 4 Boiler Output relays
Outdoor Cutoff Range:	20°F/-6°C to 100°F, ON and OFF
Reset Ratio Range:	(1:4) to (4:1) (Outdoor : System Water)
Minimum Water Temperature:	50°F/10°C to 170°F/77°C
Maximum Water Temperature:	90°F/32°C to 240°F/116°C
Indirect Domestic Hot Water:	with Priority or without Priority
Schedules:	1 Day and 1 Night (Setback) setting per day
Night Setback:	0°F/0°C to 75°F/42°C
Power Backup:	Lithium coin battery, 100 days minimum 5 year replacement (Maintains Clock in power outages)
External Inputs:	Shutdown, Tstat, and Setback Input, and Prove and DHW Call Input. (Dry Contacts Only)

Extension Specifications

(Each Extension can add up to (6) additional boiler stages. A maximum of two Extensions can be used.)

Boiler Outputs:	(6) N.O. S.P.S.T.
Modulating Output Types:	(6) 4-20mA and 0-10V
Output Relay Ratings:	1 Amp inductive (1/8 HP), 6Amp resistive at 120 VAC 6 60 Hz, 15 A total for all circuits

Connection to TempTracker mod+ Hybrid and another extension:

Two RS485 connections using 6 wire RJ11 cable (Cable is provided)